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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/778,259	02/07/2001	Cristobal Guillermo dos Remedios	13388	4496

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EXAMINER	
CHEU, CHANGHWA J	
ART UNIT	PAPER NUMBER
1641	
MAIL DATE	DELIVERY MODE
04/03/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/778,259	REMEDIOS ET AL.	
	Examiner	Art Unit	
	JACOB CHEU	1641	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 January 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *38 and 42-47* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *38, 42-47* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Applicant's amendment and Rule 1.132 affidavits filed on 1/7/2008 have been received and entered into record and considered.

The following information provided in the amendment affects the instant application:

Claims 1-37, 39-41 are cancelled.

Currently, claims 38, 42-47 are under examination.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 38, 42-43 and 47 are rejected under 35 U.S.C. 102(b) as being anticipated by Richardson et al. (Environ Mutagenesis 1981 Vol. 3, page 545-553).

Richardson et al. teach a method of detecting environmental mutagens and carcinogens in the environment, including Pb^{+2}, Zn^{+2}, Cd^{+2}, Fe^{+2} and Pt^{+2} (See Abstract; Figure 1 and Table II). Richardson et al. teach contacting the samples containing the environmental toxicant ions with nucleic acid molecules intercalated with a fluorescent dye, and detecting the dissociating of the binding between the nucleic acid molecules and said fluorescent dye, wherein said dissociation of the binding is indicative of the presence of

the environmental toxicant (See Table II; Figure 1; page 546, last paragraph to page 547, first paragraph for "Acridine Orange Displacement Assay). The assay taught by Richardson et al. can detect these environmental metal ions in the range of micromolar amounts. Supra.

With respect to claim 42, the metal ion detected is a heavy metal, such as cadimum and platinum. supra.

With respect to claim 43, the fluorescent dye used by Richardson et al. is the acridine orange. Supra.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 44-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Richardson et al. in view of Nikiforov et al. (US 5610287).

Richardson et al. reference had been discussed but no explicit teaching on immobilizing DNA on a solid substrate is mentioned.

Nikiforov et al. teach immobilizing DNA molecules on the substrate of a 96-well microtiter plate to improve analysis in a rapid, convenient and inexpensive manner (Col. 4, line 10-20).

Therefore, it would have been obvious to one ordinary skill in the art at the time the invention was made to motivated Richardson et al. to immobilize DNA molecules on the substrate of a 96-well microtiter, as taught by Nikiforov et al. for a mass screening in a rapid, convenient and inexpensive manner.

With respect to claims 44-45, Nikiforov et al. teach the materials for microtiter includes polystyrene (Col. 4, line 33-36).

Response to Applicant's Arguments

7. The rejections of claim 38, 42-43, 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liu et al. in view of Pisanti et al. are withdrawn because Liu et al. do not teach detecting the environmental metal ions in the sample, rather Liu et al. teach detecting a copper (II) macrocyclic complex (having 6-5-6-5 non-nature occurring compound)(See Remarks page 6 and Applicant's affidavits). In addition, Pisanti et al. reference is not sufficient to provide the motivation of suggestion in combination with the teachings of Liu et al. to detect the environmental metal ions.

8. Applicant's arguments with respect to claims 38, 42-47 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

9. No claim is allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JACOB CHEU whose telephone number is (571)272-0814. The examiner can normally be reached on 9:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long Le can be reached on 571-272-0823. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jacob Cheu/
Primary Examiner, Art Unit 1641